

## CORRESPONDENCE/MEMORANDUM

STATE OF WISCONSIN

DATE: December 4, 1986

FILE REF: 4530

TO: **Ralph Patterson** - AM/3  
Steve Klafka - AM/3FROM: David Fox - AM/3 *DF*SUBJECT: SO<sub>2</sub> Emission Limits for Thilmany Pulp and Paper at the Facility's  
Current Configuration

The management of Thilmany Pulp and Paper has requested alternate SO<sub>2</sub> emission limits of 7.0 lbs SO<sub>2</sub>/mmBTU (24-hour average) and 5.5 lbs SO<sub>2</sub>/mmBTU (30-day rolling average) for the facility's power boilers. This request included a proposal to construct a new 88.4 m stack for the power boilers. The DNR dispersion modeling analysis was documented in an August 29, 1986 memo. In the event that the new stack is not completed by the date (January 1, 1988) that the facility must be in compliance, the facility would be required to emit SO<sub>2</sub> at a rate from its existing power boiler stack which would protect ambient air SO<sub>2</sub> standards. This memo documents that the emission rate for the power boilers (assuming the current stack configuration) which would protect ambient air SO<sub>2</sub> standards is 1.7 lbs SO<sub>2</sub>/mmBTU.

In the modeling analysis an emission rate of 7.0 lbs SO<sub>2</sub>/mmBTU was assumed for the power boilers. The emission rates for the other boilers and lime kiln were the same as those proposed by the management of Thilmany in its alternate emission limit application and described in the August 29 memo. The modeling methodology was the same as that used in the previous analyses. Because there is a 35 m difference between the proposed and current power boiler stack height, a totally new 5 year modeling analysis was necessary. The results of the modeling analysis are shown below.

The controlling concentration is the 24-hour highest second highest predicted concentration.

Day 57, 1975

X = 400286

Y = 4903798

Culpability by source	
Power Boilers 9 and 11	781.3
Boiler 8	50.5
Boiler 10	50.2
Boiler 7	41.2
Lime Kiln	8.1
Model Pred Total	931.3
Background	24.0
	<u>955.3 ug/m<sup>3</sup></u>

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The emission limit for the power boilers which would protect SO<sub>2</sub> standards is:

$$\frac{365-50.5-50.2-41.2-8.1}{781.3} * 7.0 = 1.7 \text{ lbs SO}_2/\text{mmBTU}$$

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